Subc' A5

IN THE CLAIMS

Please cancel claim 8, amend claims 1, 2, 3, 4 and 5 and add new claims 11-29 as follows:

1. (AMENDED) An improved distributed Bragg reflector comprising:

a sampled grating including a plurality of sampled grating portions comprising a first phase separated from each other by portions with no grating; and

a first grating burst portion at the beginning of a first sampled grating portion of the sampled grating and comprising a second phase, said second phase being different from the first phase.

2. (AMENDED) The reflector of claim 1, wherein the second phase is substantially opposite that of said first phase of said sampled grating.

3. (AMENDED) The reflector of claim 1, wherein the first sampled grating portion and the first grating burst portion are spaced apart and configured to maximize a coupling constant (κ) substantially evenly across a selected tuning range.

4. (AMENDED) A method for configuring a sampled grating distributed Bragg reflector for use in a laser having an output within a specific region of bandwidth, the method comprising the steps of:

a) selecting a preferred κ for at least one wavelength of the specific region of the bandwidth that is to be used;

b) selecting a preferred wavelength tuning range for said reflector; and

c) generating a sampling function that, when applied to the reflector, results in a substantially close fit to the preferred κ within the preferred wavelength tuning range;

wherein the sampling function produces a sampled grating including a plurality of sampled grating portions each having a first phase and a second phase , the sampled grating portions separated from each other by portions with no grating.

5. (AMENDED) A method for configuring a sampled grating distributed Bragg reflector for use in a laser having an output comprising at least one wavelength within a specific region of bandwidth, the method comprising the steps of:

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a) selecting a preferred tuning range for said reflector;

b) determining a desired average κ for the at least one output wavelength of the specific region of the bandwidth that is to be used; and

c) generating a sampling function that, when applied to the reflector, results in a substantially close fit to the desired average κ within the preferred tuning range;

wherein the sampling function produces a sampled grating including a plurality of sampled grating portions each having a first phase and a second phase, the sampled grating portions separated from each other by portions with no grating.

6. The method of claim 5, wherein the at least one wavelength is a plurality of wavelengths.

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7. The method of claim 5, further comprising the step of sampling the reflector in accordance with the sampling function.

8. (CANCELLED)

9. The method of claim 4, wherein the at least one wavelength is a plurality of wavelengths.

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10. The method of claim 4, further comprising the step of sampling the reflector in accordance with the sampling function.

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11. (NEW) The reflector of claim 1, wherein the portions with no grating occupy more than 70% of the reflector.

subci 12. (NEW) The reflector of claim 1, wherein the first grating burst portion is spaced apart from the first sampled grating portion by a spacing with no grating.

13. (NEW) The method of claim 4, wherein the portions with no grating occupy more than 70% of the reflector.

14. (NEW) The method of claim 4, wherein the sampling function reverses phase at a beginning and an end of each sampled grating portion.

15. (NEW) The method of claim 5, wherein the portions with no grating occupy more than 70% of the reflector.

16. (NEW) The method of claim 5, wherein the sampling function reverses phase at a beginning and an end of each sampled grating portion.

A6 cont. subci 17. (NEW) A distributed Bragg reflector comprising:

a sampled grating including a plurality of sampled grating portions separated from each other by portions with no grating;

wherein the sampled grating portions each have a first phase and a second phase.

18. (NEW) The reflector of claim 17, wherein the portions with no grating occupy more than 70% of the reflector.

19. (NEW) The reflector of claim 17, wherein the sampled grating portions reverse phase at a beginning and an end of each sampled grating portion.

20. (NEW) A method for configuring a sampled grating distributed Bragg reflector for use in a laser having an output within a specific region of bandwidth, the method comprising the steps of:

a) selecting a preferred κ for at least one wavelength of the specific region of the bandwidth that is to be used;

b) selecting a preferred wavelength tuning range for said reflector; and

c) generating a sampling function that produces a sampled grating including a plurality of sampled grating portions having a first phase separated from each other by portions with no grating; and

d) adding a first grating burst portion having a second phase different from the first phase at the beginning of a first sampled grating portion of the sampled grating;

wherein the reflector results in a substantially close fit to the preferred κ within the preferred wavelength tuning range.

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21. (NEW) The method of claim 20, wherein the portions with no grating occupy more than 70% of the reflector.

22. (NEW) The method of claim 20, wherein the second phase is substantially opposite that of said first phase of said sampled grating.

23. (NEW) The method of claim 20, wherein the first grating burst portion is spaced apart from the first sampled grating portion by a spacing with no grating.

24. (NEW) The method of claim 20, wherein the first grating burst portion is spaced apart from the first sampled grating portion by a spacing with no grating and the second phase is substantially opposite that of said first phase of said sampled grating.

25. (NEW) A method for configuring a sampled grating distributed Bragg reflector for use in a laser having an output comprising at least one wavelength within a specific region of bandwidth, the method comprising the steps of:

a) selecting a preferred tuning range for said reflector;

b) determining adesired average κ for the at least one output wavelength of the specific region of the bandwidth that is to be used;

c) generating a sampling function that produces a sampled grating including a plurality of sampled grating portions having a first phase separated from each other by portions with no grating; and

d) adding a first grating burst portion having a second phase different from the first phase at the beginning of a first sampled grating portion of the sampled grating;

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wherein the reflector results in a substantially close fit to the preferred κ within the preferred wavelength tuning range.

26. (NEW) The method of claim 25, wherein the portions with no grating occupy more than 70% of the reflector.

27. (NEW) The method of claim 25, wherein the second phase is substantially opposite that of said first phase of said sampled grating.

28. (NEW) The method of claim 25, wherein the first grating burst portion is spaced apart from the first sampled grating portion by a spacing with no grating.

29. (NEW) The method of claim 25, wherein the first grating burst portion is spaced apart from the first sampled grating portion by a spacing with no grating and the second phase is substantially opposite that of said first phase of said sampled grating.